Preface

1. This standard detail includes the types of lighting fixtures to be used on fixed-wing runways and taxiways, heliport runways and taxiways, helicopter stagefields, and helipads. This standard detail has been prepared to establish uniform requirements, reduce project costs and design time, and show generic features of fixtures. An attempt has been made, in most cases, to standardize fixtures with the Air Force, Navy, and FAA specifications. In addition, few fixtures differ from civilian aviation fixtures. This standard detail provides drawings and text describing each fixture. The text is to take precedence over the drawing of a fixture, since different manufacturers may meet standards using varying designs. No attempt has been made to exclude any manufacturer; however, an effort has been made to use standard off-the-shelf fixtures, with only minor changes.

2. All fixtures shall be permanently marked by the manufacturer as to proper orientation with respect to the runway centerline where photometrics are critical.

3. Contract documents will further define fixture designs for specific applications and shall take precedence over this standard detail.

4. Permission to deviate from fixture types shown in this document shall be requested from Headquarters, U.S. Army Corp of Engineers (HQUSACE), CEMP-ET, WASH DC 20314-1000.

5. Standard Detail No. 40-06-05 sheets will not be modified by the division or district offices. Recommended changes will be forwarded for action to HQUSACE, CEMP-ET, WASH DC 20314-1000. If there is a continued need for a particular type of fixture not covered herein, data should be forwarded to HQUSACE, CEMP-ET, in order to be considered for inclusion in Standard Detail No. 40-06-05.

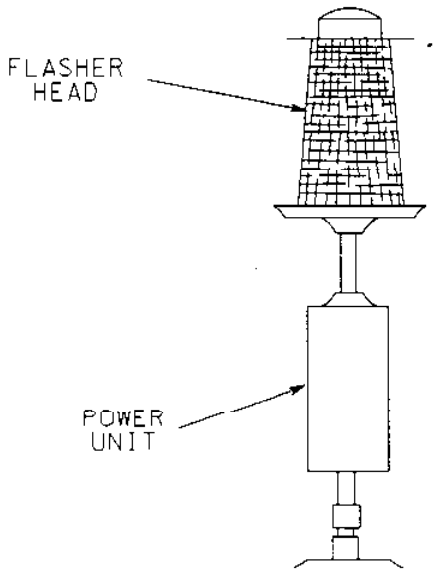
Table of Contents

Table of Contents – Continued

Application Matrix

APPLICATION	AIRFIELD	HELIPORT	HELIPAD	STAGEFIELD
Approach Lights:				
ALSF-2	PAR-56			
LDIN	L-859			
MALS	PAR-38			
MALSF	PAR-38, L-849			
MALSR	PAR-38, L-849			
ODALS	L-859			
RAIL	L-849			
REIL	L-849, L-859			
SALS	PAR-56			
Glide Slope Indicator	PAPI	CHAPI, PAPI	CHAPI	
Threshold	L-850D, L-852E, L-861, L-862, M-1	L-852E, L-861, M-1		L-852E, L-861, M-1
Edge Lights	L-838*, L-850C, L-852E, L-861, L-862, M-1	L-838*, L-850C, L-852E, L-861, M-1		L-838*, L-850C, L-852E, L-861, M-1
Runway Centerline	L-850A, L-852N			
Taxiway Centerline	L-852A, L-852B			
Taxiway Edge	L-852E, L-861, M-1	L-852E, L-861, M-1		
Limit Lights	L-861	L-861		
Helicopter:				
Approach Direction			PAR-56	
Floodlight (Nonhazardous)		Run-up area	As required	
Floodlight (Hazardous)		Run-up area	As required	
Helipad Inset			L-852E	
High-Intensity Approach Lighting System		L-852E, L-861, L-862, PAR-56	L-852E, L-861, L-862, PAR-56	
Hoverlane	L-852E, L-861, M-1	L-852E, L-861, M-1	L-852E, L-861, M-1	
Landing Direction			L-852E, L-861, L-862	
Perimeter			L-852E, L-861, L-861SE	
Miscellaneous Fixtures:				
Explosion Proof	As required	As required	As required	As required
Identification/Code Beacon	G-1	G-1	G-1	G-1
Rotating Beacon	MIL-L-7158	L-801H	L-801H	L-801H
Obstruction, Flashing	G-1	G-1	G-1	G-1
Obstruction, Steady-Burning	L-810	L-810	L-810	L-810

*For replacement of existing fixtures only.



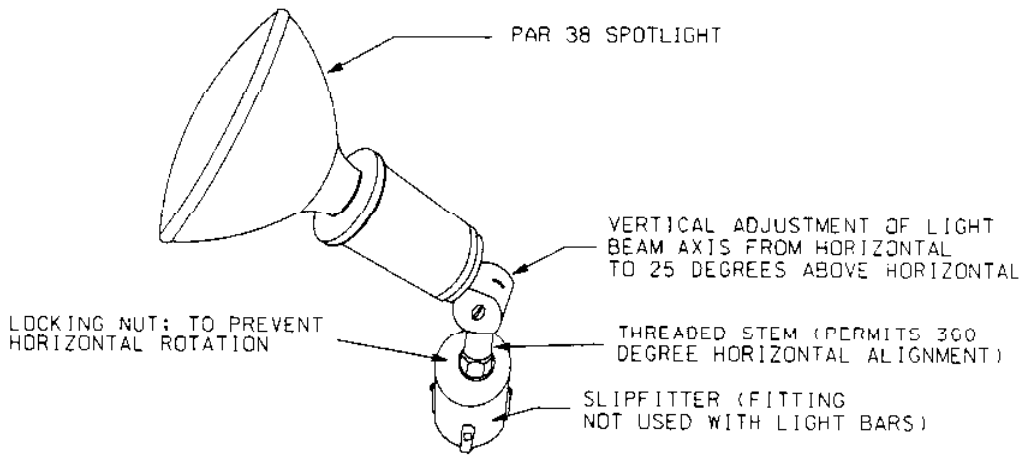
Approach Light, Omnidirectional, Capacitor Discharge Flashing Light Unit

Type L-859

Used in Lead-In Lighting System (LDIN), Omnidirectional Approach Lighting System (ODALS), and Omnidirectional Runway End Identifier Light (REIL) Approach Lighting System

The flashing light unit shall meet the requirements of AC 150/5345-51 type L-859F. Unit shall flash at a rate of once per second, producing a white light horizontally 360° and vertically from +2° to +10° above the horizontal. The unit shall be capable of operating at three intensities. When light units operate as a REIL, both units will flash simultaneously at a rate of once per second. Light units shall be capable of being shielded when required by local conditions.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

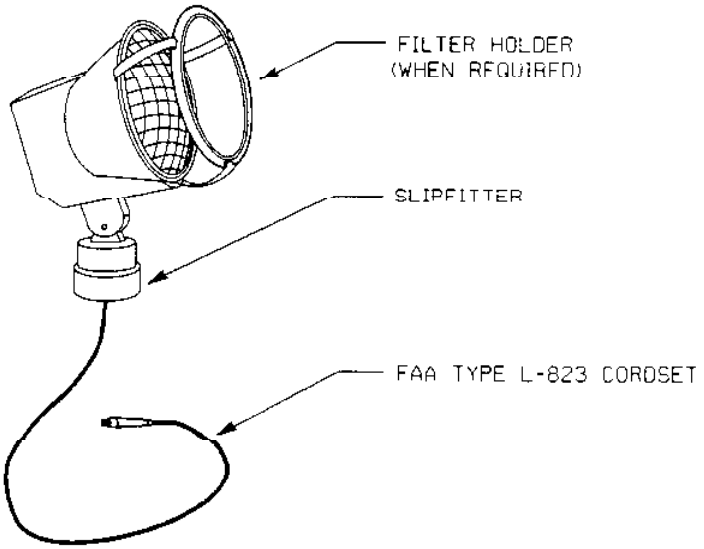


Approach Light, PAR-38 Lampholder

Used in Medium-Intensity Approach Lighting System (MALS), MALSF, and MALSR

The PAR-38 lampholder shall meet the requirements of FAA-E-2325 and accommodate a 150-watt, 120-volt, PAR-38 spot lamp. Energy saving lamps less than 150 watts may be used when light output and distribution are equivalent to 150 watt lamps and approved by the contracting officer. All metal parts of the lampholder (including mounting base) shall be fabricated from cast aluminum or other suitable nonferrous metal. Aluminum shall have an anodized coating in accordance with MIL-A-8625. Copper bearing hardware in contact with aluminum shall be cadmium, nickel, or zinc plated. A drain hole shall be provided in the lampholder in order to prevent accumulation of water caused by condensation. Lampholder design shall provide a rain-tight seal when a PAR-38 lamp is installed. Lampholder and mounting base shall have an internal wireway for two No. 16 THW wires. Lamp socket shall have screw terminals for connection of two No. 16 THW wires.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

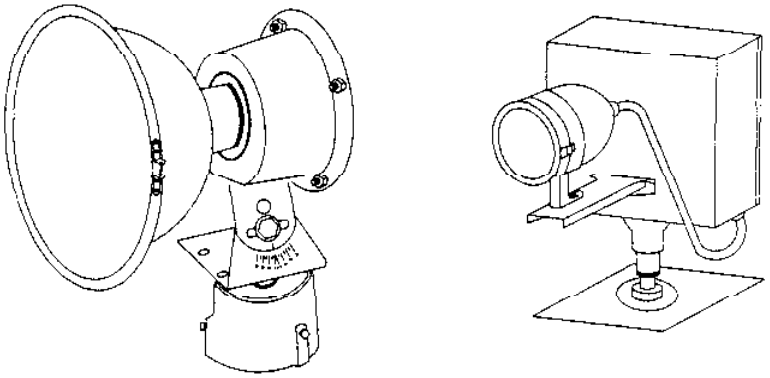


Approach Light, PAR-56 Lampholder

Used in Short-Approach Lighting System (SALS), Approach Lighting System With Sequenced Flasher (ALSF-2), and Helicopter High-Intensity Approach Lighting System

Light fixtures shall conform to FAA specification FAA E-982 and meet the requirements of AFM 88-14. Lampholder shall have vertical and horizontal adjustments. Diameter of slipfitter is determined by application and mounting methods. Lampholder shall accommodate both a PAR-56 steady-burning spot lamp and a PAR-56 flash lamp.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.



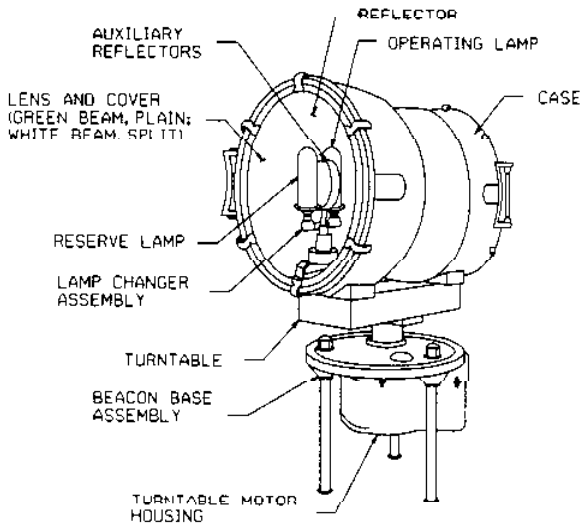
Approach Light, Unidirectional, Capacitor (Condenser) Discharge Flashing Light Unit

Type L-849

Used as a sequenced flasher in MALSF, MALSR, Runway Alignment Indicator Light (RAIL), and REIL configurations

FAA type L-849 flashing light unit shall meet the requirements of FAA-E-2159 and AC 150/5345-51. Light source shall be a flash lamp and reflector or a PAR-56 flash lamp. The flash lamp shall be commercially available and have a minimum operating life of 500 hours or 3,600,000 flashes.

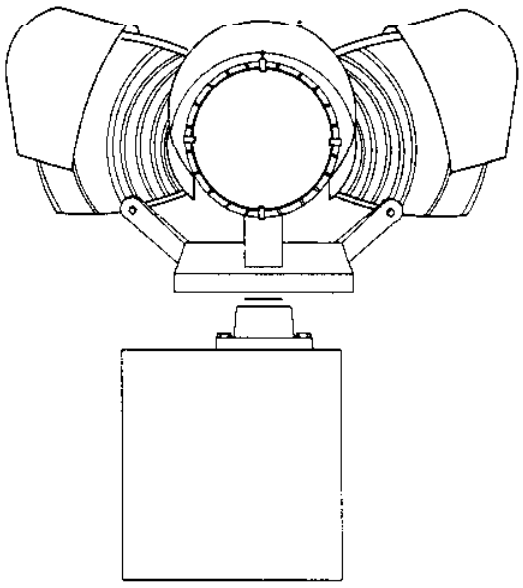
Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.



Beacon, Rotating, Airfield (MIL-L-7158)

The rotating beacon shall be 24 inch, rigid, and drum type and shall conform to the requirements of MIL-L-7158. The lens and cover shall conform to MIL-L-5630. Lamps shall be 1,200 watt, 120 volt, T-20 mogul bipost base, type 120T20. The beacon shall automatically change to a new lamp when the operating lamp fails. Each beacon shall be equipped with a 1/6-horsepower, 115-volt, 60-hertz, 1,140-revolution-per-minute (RPM) motor of the squirrel-cage type. This high-intensity beacon shall have a double-peaked white beam for denoting a military airfield and a single-peaked green beam for indicating that the airfield has lighted facilities for operations at night or in restricted visibility. The two beams shall be directed 180° apart. The signal from the beacon shall be visible through 360° of the azimuth by rotating at 6 RPM.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

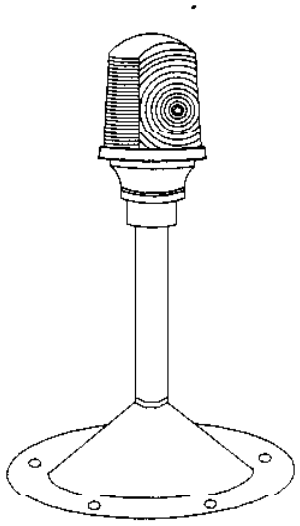


Beacon, Rotating, Heliport/Helipad

Type L-801H

The beacon shall meet the requirements of FAA AC 150/5345-12 type L-801H, class 2. The beacon shall use three lamps of the rating and type determined by the manufacturer. The heliport/helipad beacon shall alternately flash the colors of white, green, and yellow. When used to identify a medical facility, the beacon shall alternately flash the colors of white, green, and red. To denote a military facility, the white flash shall be two closely spaced peaks. The emitted light from the beacon shall be visible around 360° of the azimuth. The vertical beam width shall not be less than 9° at 50 percent of the peak intensity. Intensity below the horizontal shall be less than 1,000 candelas. With the axis of the beam 5° above horizontal, the effective intensity of the white flashes shall not be less than 25,000 candelas for vertical angles between 2° and 8° and not less than 12,500 candelas for vertical angles between 1° and 2° and between 8° and 10°. The flash rate shall be between 12 and 15 flash sequences per minute, with the time between adjacent colors one-third of the sequence time.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.



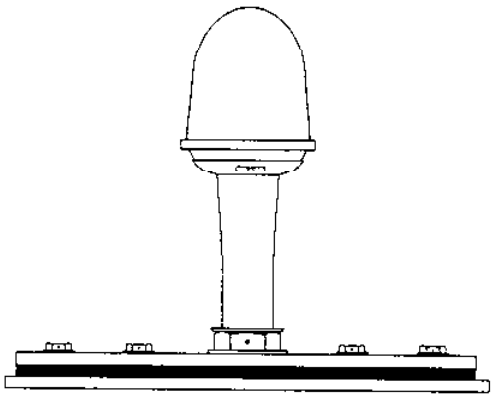
Elevated, High-Intensity, Bidirectional Light Fixture

Type L-862
(or Type C-1, MIL-L-5904)

The light fixture shall meet the requirements of FAA AC 150/5345-46 type L-862 or MIL-L-5904 type C-1. Fixture housing shall allow a 4° tilt for azimuth positioning after installation. Lamps shall be as recommended by the manufacturer in order to meet the requirements of AFM 88-14. An FAA type L-823 plug shall be used. Fixture shall be frangibly mounted a maximum of 14 inches above grade. If snow accumulations of 12 inches or more will be frequent, mounting height may be increased to not more than 24 inches above grade.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

Application	Filter
Fixed-wing runway edge	none
Fixed-wing runway threshold	aviation green/aviation red
Helipad landing direction	aviation yellow



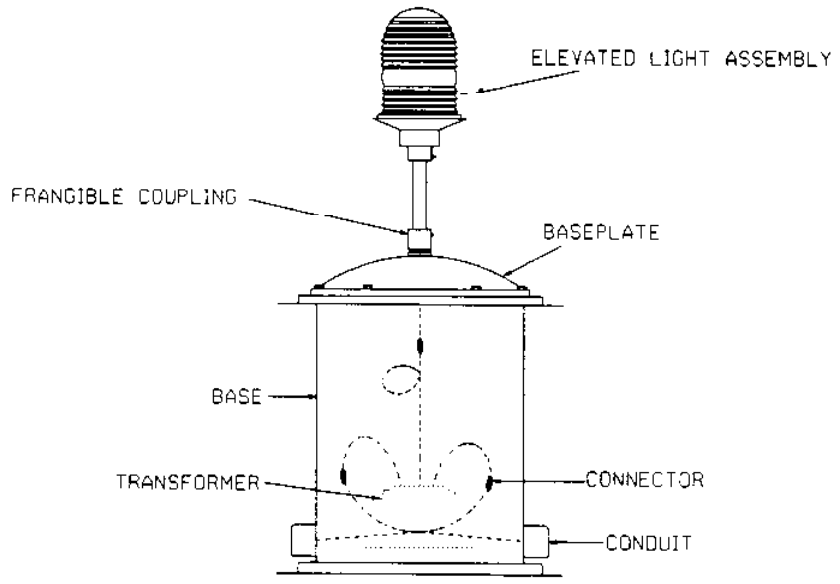
Elevated, Medium-Intensity, Bidirectional Light Fixture

Type L-861SE

The light fixture shall meet the requirements of FAA AC 150/5345-46 type L-861SE. Fixture housing shall allow a 4° tilt for azimuth positioning after installation. An FAA type L-823 plug assembly shall be used. Fixtures shall be frangibly mounted a maximum of 14 inches above grade. If snow accumulations of 12 inches or more will be frequent, mounting height may be increased to not more than 24 inches above grade. Fixture dimensions shall permit interface with an FAA L-868 base.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

Application	Lamp	Filter
Helipad perimeter	115 watt	aviation yellow



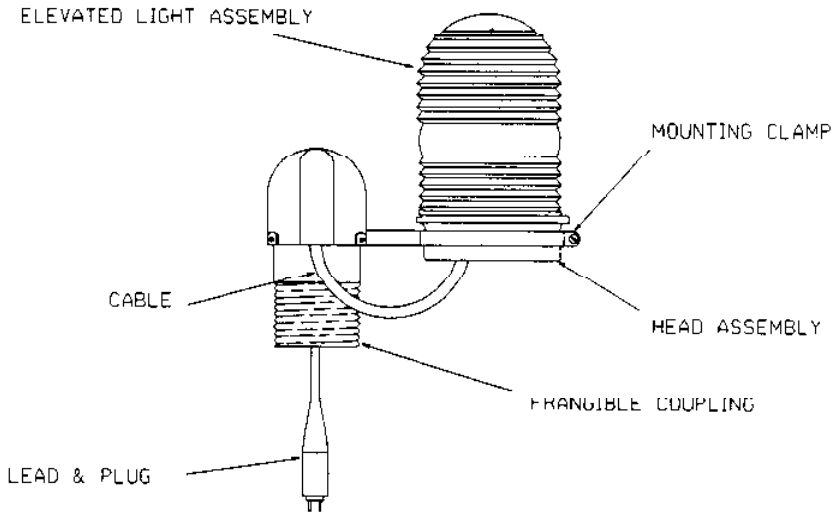
Elevated, Medium-Intensity, Omnidirectional Light Fixture

Type L-861

The light fixture shall meet the requirements of FAA AC 150/5345-46 type L-861. An FAA type L-823 plug assembly shall be used. Fixtures shall be frangibly mounted a maximum of 14 inches above grade. If snow accumulations of 12 inches or more will be frequent, mounting height may be increased to not more than 24 inches above grade. Fixture dimensions shall permit interface with an FAA L-868 base.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

Application	Lamp	Filter
Fixed wing runway edge, Heliport runway edge, Helicopter stagefield lane edge	30 watt	none
Fixed-wing taxiway, Heliport taxiway	30 watt	aviation blue
Helicopter hoverlane	30 watt	alternating fixtures of aviation green and aviation yellow
Limit lights	45 watt	aviation red
Fixed-wing runway threshold, Heliport runway threshold, Stagefield threshold and lane end	45 watt	aviation green/aviation red
Helipad approach direction	see AFM 88-14	none
Helipad landing direction	see AFM 88-14	aviation yellow
Helipad perimeter	see AFM 88-14	aviation yellow



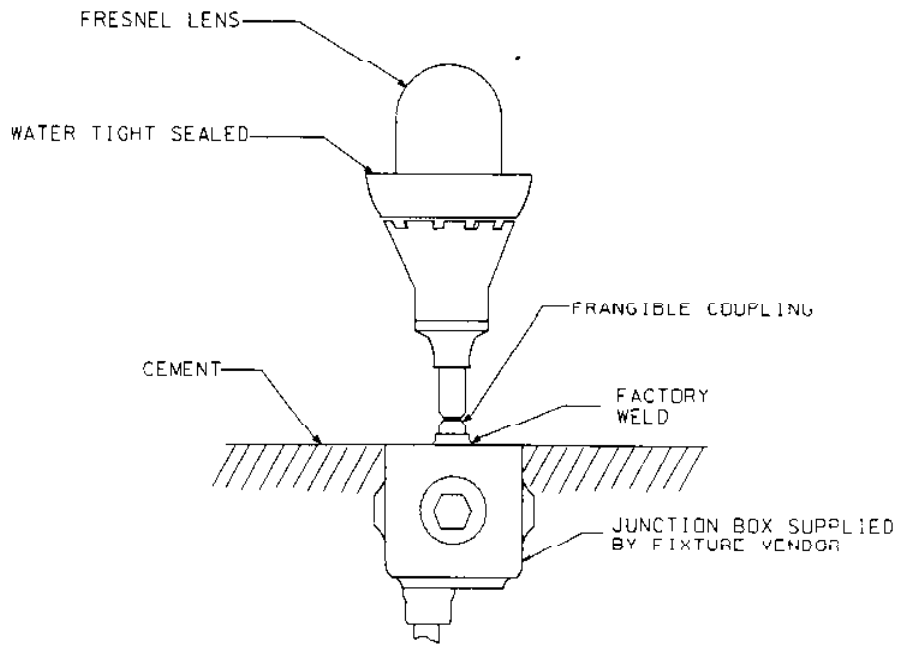
Elevated, Medium-Intensity, Omnidirectional Light Fixture

Type M-1

The light fixture shall conform to MIL-L-7082. The fixture shall mate with a frangible coupling that will mate with a 2-inch threaded conduit coupling. The lamp for this fixture shall have a T-10 medium prefocus base and conform to MIL-L-6363 and MS 25012 (−1 when a 30 watt lamp is used). The lens shall have a light distribution that equals or exceeds MIL-L-7082. The cord shall be 2 conductor, 16 AWG, copper, type SJ or SO, 20 inches (±1) in length and comply with MIL-L-7082. The plug shall conform to FAA L-823. For extremely low temperatures, a class B fixture and cord shall be used.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

Application	Lamp	Lens
Fixed-wing runway edge, Heliport runway edge, Helicopter stagefield lane edge	30 watt, 6.6 ampere	aviation white (asymmetric distribution)
Fixed-wing taxiway, Helicopter taxiway	30 watt, 6.6 ampere	aviation blue
Helicopter hoverlane	30 watt, 6.6 ampere	alternating fixtures of aviation green and aviation yellow
Fixed-wing runway threshold, Heliport runway threshold, Stagefield threshold and lane end	45 watt, 6.6 ampere	180° aviation green/180° aviation red

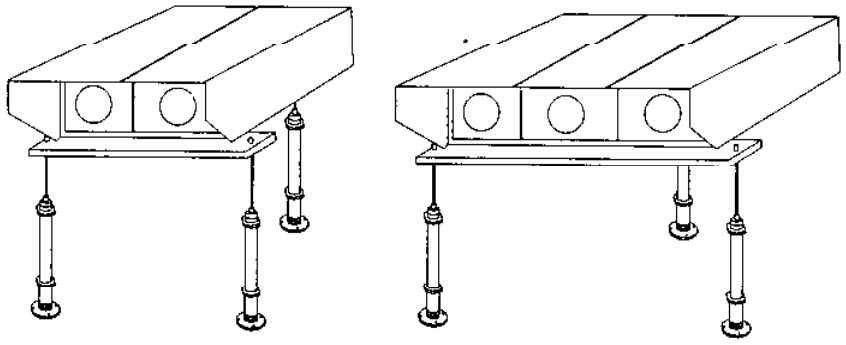


Explosion-Proof Aviation Light Fixture Assembly

No FAA standard has been established for aviation explosion-proof light fixtures. Fixture assembly must meet Underwriters Laboratories (UL) test and approval requirements as stated in UL 844 for class 1, division 1, group D hazardous locations as defined in NFPA 70. The fixture assembly shall include a light fixture, frangible-coupling, power disconnect switch that will kill power to the fixture if the frangible coupling is broken, and a junction box. The lens/filter colors shall meet MIL-C-25050. Crouse-Hinds Corporation* is the only known manufacturer of an explosion-proof aviation light fixture assembly meeting UL requirements. The explosion-proof aviation light fixture assembly and associated electrical wiring shall be used when lighting fixtures are required within 50 feet of an aircraft fuel inlet or fuel system vent and within 63 feet of an aircraft direct fueling outlet/hose reel pit.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

*Reference to this company does not imply any endorsement of or favoritism toward this firm.



Glide Slope Indicator (CHAPI)

Used on heliports and helipads

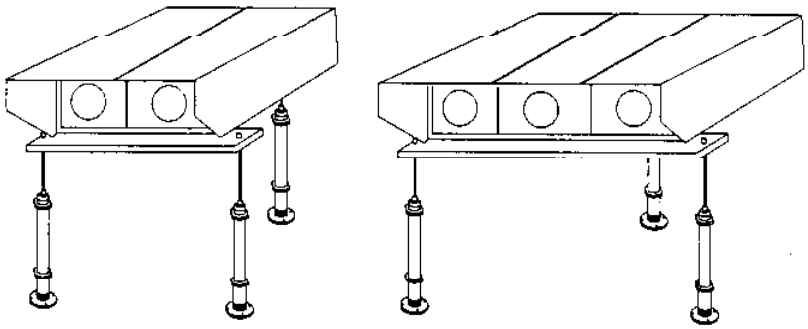
The Chase Helicopter Approach Path Indicator (CHAPI) shall meet the requirements of FAA AC 150/5345-28 type L-881, with the addition of a filter that will provide a 2°–wide green sector in the center of the white over red beam. The CHAPI system consists of two red/green/white units. Each unit shall have at least two lamps and meet the photometric requirements of AC 150/5345-28, except as modified by the additional green filter. A tilt switch system that deenergizes all the lamps in the system per AC 150/5345-28 shall be provided. Failure of one or more lamps shall not cause any over voltage or transients that will result in damage to the remaining lamps. The light units shall have a minimum of three adjustable mounting legs for leveling. The CHAPI system shall be on an independently controlled circuit.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

The light pattern as seen from the approach zone shall be as follows:

Above Course:	○	○
Slighty High:	○	◉
On Course:	◉	◉
Slightly Low:	◉	●
Below Course:	●	●

Key: ○ white ◉ green ● red



Glide Slope Indicator (PAPI)

Type L-880

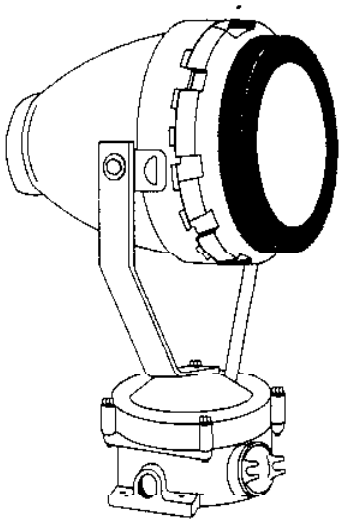
The Precision Approach Path Indicator (PAPI) shall meet the requirements of FAA AC 150/5345-28 type L-880. Each light unit shall have at least two lamps and shall provide a beam of light split horizontally in order to produce white light in the top sector and red light in the bottom sector, meeting the photometric requirements of AC 150/5345-28. A tilt switch system that deenergizes all the lamps in the system per AC 150/5345-28 shall be provided. Failure of one or more lamps shall not cause any over voltage or transients that will result in damage to the remaining lamps. The light units shall have a minimum of three adjustable mounting legs for leveling. The PAPI system shall be on an independently controlled circuit.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

The PAPI system consists of four light source units arranged in a wing bar near the left edge of the runway in the touchdown area. The light pattern as seen from the approach zone shall be as follows:

Above Course:	○	○	○	○
Slighty High:	○	○	○	●
On Course:	○	○	●	●
Slightly Low:	○	●	●	●
Below Course:	●	●	●	●

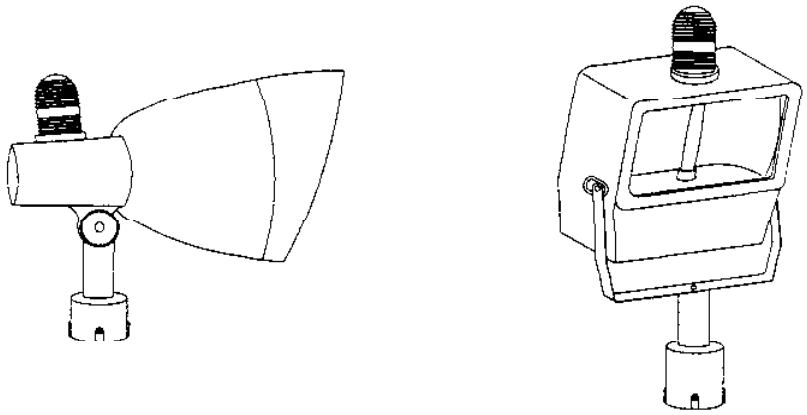
Key: ○ white ● red



Helipad Floodlight (Hazardous Locations)

No FAA standard has been established for helipad floodlights. When hazardous conditions exist at a helipad, floodlights meeting the requirements of UL 844 and NFPA 70, National Electric Code (NEC), class 1, division 1, groups C and D shall be used as a minimum. Helipad application and use shall determine if more stringent fixture requirements are necessary. Floodlights shall be mounted not over 4 feet above the grade of the helipad, with a small obstruction light at each floodlight visible from any direction. The obstruction light shall be wired separately from the floodlight. The floodlight shall be designed to direct the entire light output of the fixture below the horizontal. The average horizontal luminance shall be 2 footcandles with a uniformity ratio (average to minimum) of not more than 4 to 1. Lamps shall be as recommended by the manufacturer.

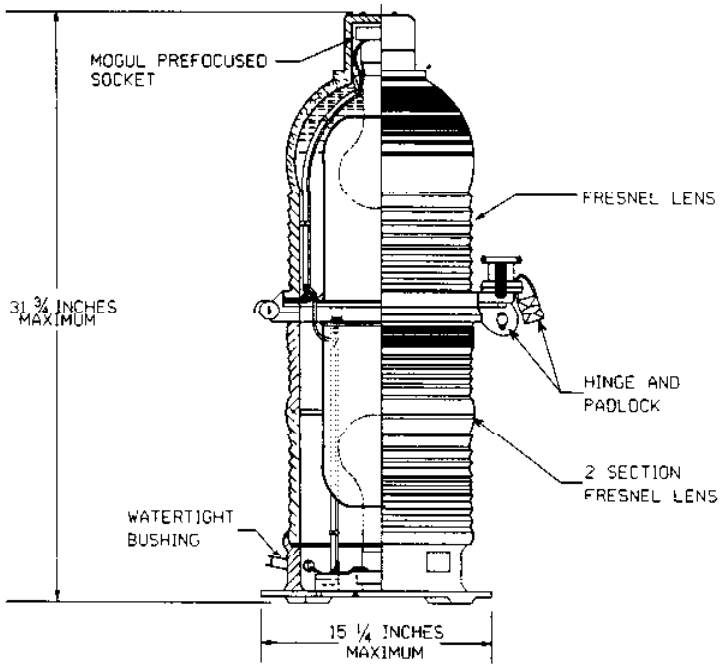
Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.



Helipad Floodlight

No FAA standard has been established for helipad floodlights. A small obstruction light shall be mounted on or near each floodlight and shall be visible from any direction. Operation of the obstruction light shall be nondimming and independent of floodlight operation because the obstruction still exists when the floodlight is not illuminated. Floodlights shall be mounted not over 4 feet above the grade of the helipad. Floodlights shall be designed to direct the entire light output of the fixture below the horizontal. The average horizontal luminance shall be 2 footcandles with a uniformity ratio (average to minimum) of not more than 4 to 1. The fixture may use one or two lamps, with a total wattage of not more than 500 watts, and will conform to NEMA FA-1. Lamps shall be as recommended by the manufacturer.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

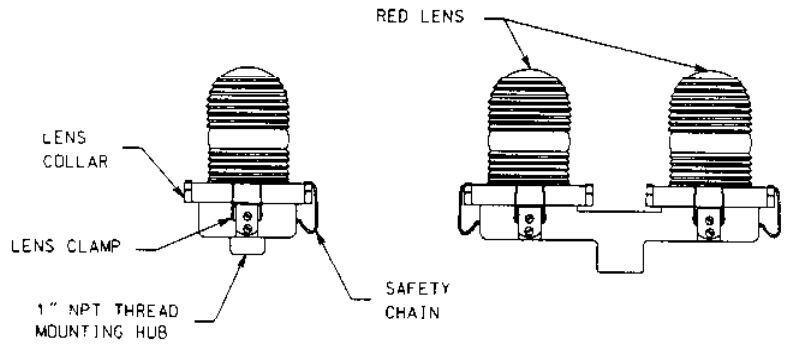


Obstruction Light (or Identification/Code Beacon), Flashing

Type G-1 or L-866

The light fixture shall meet the requirements of MIL-L-6273 type G-1 or FAA AC 150/5345-43 type L-866. The fixture shall also meet the provisions of FAA AC 70/7460-1. The light shall be designed to operate two (620-watt, 120-volt, PS-40 clear, C-7A filament, 10,000-lumen, 5-11/16-inch light center length, 10-1/16-inch maximum overall length, 3,000-hour life) lamps simultaneously, one in the upper section with base up, and one in the lower section with base down. The light shall be provided with suitable filter holders that permit easy installation of color filters. When specified, filters shall be furnished with the light. When the light is used as an identification/code beacon, filters shall be aviation green. The glass lens shall be aviation white. The design of the light shall be such that continuous operation will not cause damage to any of its parts from a rise in temperature. The lens frame shall be hinged at the midpoint for relamping and installation of filters. A means to lock the frame shut with a padlock shall be provided. The emitted light shall be visible from the horizontal to the zenith around the entire 360° horizontal area of the unit. The main beam shall be at an angle of 3° above the horizontal when either upper or lower lamp is operating.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

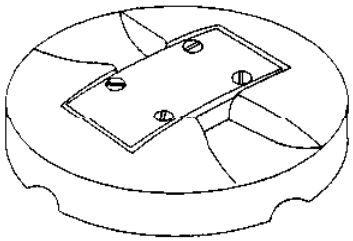


Obstruction Light, Steady-Burning Red

Type L-810

The light fixture shall conform to MIL-L-7830 or meet the requirements of FAA AC 150/5345-43 type L-810 and FAA AC 70/7460-1 type L-810. These obstruction lights consist of one or more steady-burning lamps ranging from 45 to 116 watts with each lamp enclosed in an aviation red Fresnel globe. The intensity shall not be less than 32.5 candelas at all horizontal angles. A safety chain linking the top and bottom sections shall be supplied. The chain shall be of such length that the top section can be removed with a lamp in place. If a flashing mechanism is installed, it is preferable that all lights flash simultaneously.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

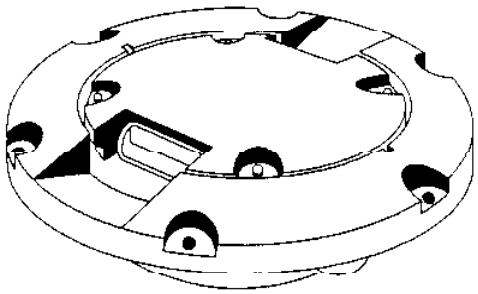


Runway Centerline, Hook-Resistant, Semiflush, Bidirectional Light Fixture Type L-852N

There is no qualifying specification for this aircraft tail-hook-resistant light fixture. The fixture generally used is referred to as an L-852N, since it is a derivative of the FAA AC 150/5345-46 type L-852 fixture. The L-852N is a ruggedized version designed specifically for U.S. Navy application. An example of Army use would be runways for an Army National Guard F-4 aircraft. Crouse–Hinds Corporation* is the only known manufacturer of the L-852N fixture. The fixture is available in types V, VI, VII, and VIII. The slope of the top surface of the light fixture, which protrudes above finish grade, shall be no more than 20° (except for recesses), and the total height above grade shall be no more than 1/2 inch. Lamps are to be 65 watt of a type recommended by the fixture manufacturer. Where more than one fixture is connected to a single isolation transformer, the fixtures shall be ordered with bypass devices or relays.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

*Reference to this company does not imply any endorsement of or favoritism toward this firm.

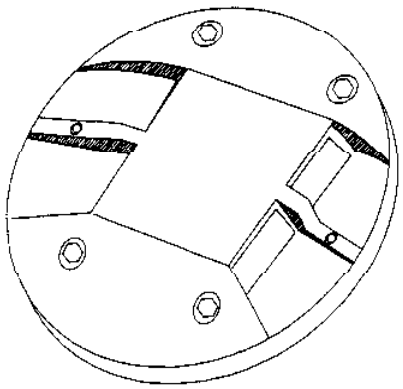


Runway Centerline, Semiflush, Bidirectional Light Fixture

Type L-850A

Light fixtures shall meet the requirements for FAA AC 150/5345-46 type L-850A, class 2, dry system. Lamps and filters shall be as recommended by the manufacturer in order to meet the requirements of AFM 88-14. The slope of the top surface of the light fixture, which protrudes above the finish grade, shall be no more than 20° (except for recesses), and the total height above grade shall be no more than 1/2 inch. The outer diameter of the fixture shall be 11.94 inches (±0.05) and shall mate with an FAA size-B L-868 base. Leads shall be stranded copper, at least 18 inches long and terminated with an FAA type L-823 plug. Where more than one fixture is connected to a single isolation transformer, the fixtures shall be ordered with bypass devices or relays.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

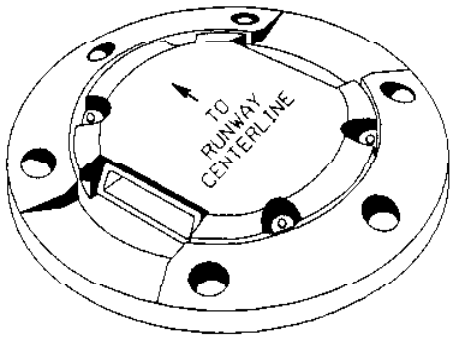


Runway Edge, Semiflush, High-Intensity, Bidirectional Light Fixture
(Replacement Only)

Type L-838

The light fixture shall meet the requirements for FAA L-838 type 1 and MIL-L-26202 class B-15. The housing material shall be ductile iron with a minimum tensile strength of 70,000 psi. The fixture shall be supplied with stranded copper leads that are at least 18 inches long and terminated with an FAA L-823 plug. Lamps shall be as recommended by the manufacturer in order to meet the requirements of AFM 88-14.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

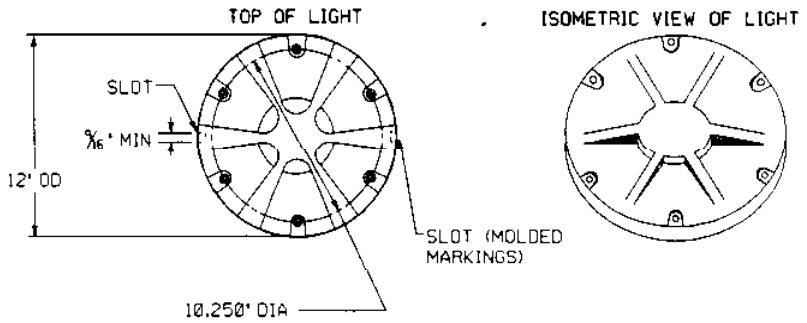


Runway Edge, Semiflush, High-Intensity, Bidirectional Light Fixture

Type L-850C

Light fixtures shall meet the requirements for FAA AC 150/5345-46 type L-850C. Lamps shall be as recommended by the manufacturer in order to meet the requirements of AFM 88-14. The slope of the top surface of the fixture, which protrudes above finish grade, shall be no more than 20° (except for recesses), and the total height above grade shall be no more than 1 inch. Fixture dimensions shall permit interface with an FAA L-868 base.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.



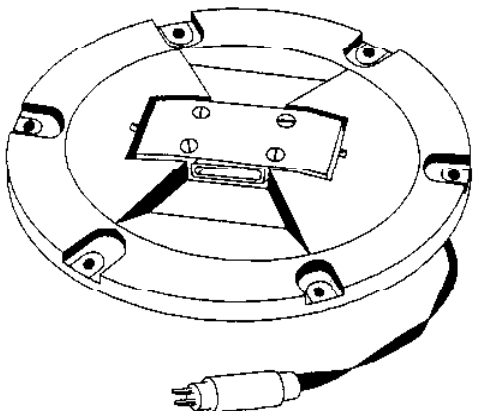
Semiflush, Medium-Intensity Omnidirectional Light Fixture

Type L-852E

The light fixture shall be omnidirectional and meet the requirements of AC 150/5345-46 type L-852E, class 2. The slope of the top surface of the fixture, which protrudes above finish grade, shall be no more than 20° (except for recesses), and the total height above grade shall be no more than 1 inch (25 mm). The fixture shall mount on a 12-inch-diameter FAA L-868 base. The fixture shall be supplied with a minimum 16-inch-long FAA L-823 lead assembly. When a filter is required, the filter shall be supplied with fixture.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

Application	Lamp	Filter
Fixed-wing runway edge, Helicopter stagefield lane edge	45 watt , 6.6 ampere	none
Helicopter hoverlane	45 watt, 6.6 ampere	alternating fixtures of aviation green and aviation yellow
Heliport runway edge	45 watt, 6.6 ampere	alternating fixtures of aviation white (none) and aviation blue
Fixed-wing taxiway, Helicopter taxiway	45 watt, 6.6 ampere	aviation blue
Fixed-wing runway threshold, Heliport runway threshold, Stagefield threshold and lane end	45 watt, 6.6 ampere	180° aviation green/180° aviation red
Helipad approach direction	115 to 200 watt	none
Helipad landing direction	100 to 120 watt	aviation yellow
Helipad perimeter	100 to 120 watt	aviation yellow
Helipad inset	40 to 45 watt	aviation blue



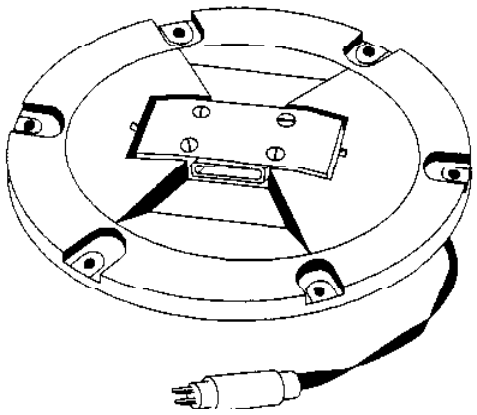
Taxiway Centerline, Bidirectional, Narrow-Beam Light Fixture

Type L-852A

Used Along Taxiway Straight Sections

The light fixture shall meet the requirements of AFM 88-14 and FAA AC 150/5345-46 type L-852A, mode 1. Lamps shall be 45 watts and 6.6 amperes and of the type determined by the manufacturer. Filters shall be aviation green, except where hold lights are installed. The centerline light at the hold line shall show yellow toward the holding aircraft. The slope of the top surface of the light fixture, which protrudes above finish grade, shall be no more than 20° (except for recesses), and the total height above grade for the fixture shall be no more than 1/2 inch (12 mm). The fixture shall be supplied with stranded copper leads that are at least 18 inches long and terminated with an FAA type L-823 plug. Where more than one fixture is connected to a single isolation transformer, the fixtures shall be ordered with bypass devices or relays.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.



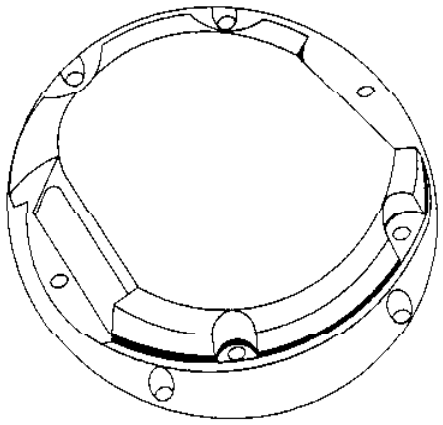
Taxiway Centerline, Bidirectional, Wide-Beam Light Fixture

Type L-852B

Used along taxiway curved sections

The light fixture shall meet the requirements of AFM 88-14 and FAA AC 150/5345-46 type L-852B, mode 1. Lamps shall be 65 watts and 6.6 amperes and of the type determined by the manufacturer. Filters shall be aviation green, except where hold lights are installed. The centerline light at the hold line shall show yellow toward the holding aircraft. The slope of the top surface of the light fixture, which protrudes above finish grade, shall be no more than 20° (except for recesses), and the total height above grade for the fixture shall be no more than 1/2 inch (12 mm). The fixture shall be supplied with stranded copper leads that are at least 18 inches long and terminated with an FAA L-823 plug. Where more than one fixture is connected to a single isolation transformer, the fixtures shall be ordered with bypass devices or relays.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.



Threshold and Runway End, Semiflush, High-Intensity, Bidirectional Light Fixture

Type L-850D

Light fixture shall meet the requirements of AFM 88-14 and FAA AC 150/5345-46 type L-850D. Lamps shall be as recommended by the manufacturer in order to meet the requirements of AFM 88-14. Filters shall be aviation green on the approach side and aviation red on the runway side. The slope of the top surface of the fixture, which protrudes above finish grade, shall be no more than 20° (except for recesses), and the total height above grade shall be no more than 1 inch. Fixture dimensions shall permit interface with an FAA L-868 base. The fixture shall be marked to show direction of runway centerline.

Fixture type indicated on this sheet shall also conform to requirements specified in the contract documents.

References

GOVERNMENT PUBLICATIONS

Department of Transportation, Federal Aviation Administration (FAA)

Advisory Circulars

AC 70/7460-1 . . . . . Obstruction Marking and Lighting

AC 150/5345-12 . . . . . Specification For Airport and Heliport Beacons

AC 150/5345-28 . . . . . Precision Approach Path Indicator (PAPI) Systems

AC 150/5345-43 . . . . . Specification For Obstruction Lighting Equipment

AC 150/5345-46 . . . . . Specification For Runway and Taxiway Light Fixtures

AC 150/5345-51 . . . . . Specification For Discharge-Type Flashing Light Equipment

Standards, Specifications, and Drawings

FAA-E-982 . . . . . PAR-56 Lampholder

FAA-E-2159 . . . . . Runway End Identifier Lighting System (REIL)

FAA-E-2325 . . . . . Medium-Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR)

Department of the Air Force

AFM 88-14 . . . . . Visual Air Navigation Facilities

Department of Defense

MIL-L-5630 . . . . . Lens and Cover; Beacon Light, Drum Type, 24-Inch

MIL-L-5904 . . . . . Light, Runway Marker, Elevated, Type C-1

MIL-L-6273 . . . . . Light, Navigational, Beacon, Obstacle or Code, Type G-1

MIL-L-6363 . . . . . Lamps, Incandescent, Aircraft Service, General Specification For

MIL-L-7082 . . . . . Light, Runway Marker, Elevated, Type M-1

MIL-L-7158 . . . . . Light, Beacon, Rotating, 24-Inch

MIL-L-7830 . . . . . Light Assembly, Marker, Aircraft Obstruction

MIL-A-8625 . . . . . Anodic Coatings, for Aluminum and Aluminum Alloys

MIL-C-25050 . . . . . Color, Aeronautical Lights and Lighting Equipment, General Requirements For

MIL-L-26202 . . . . . Light, Marker, Airport, Semiflush, General Specification For

MS 25012 . . . . . Lamp, Incandescent, T-10 Bulb, Medium Prefocus Base

NON-GOVERNMENT PUBLICATIONS

National Fire Protection Association (NFPA)

NFPA 70 . . . . . National Electrical Code

National Electrical Manufacturers Association (NEMA)

FA-1 . . . . . Outdoor Floodlighting Equipment

Glossary

AC . . . . . advisory circular

AFM . . . . . Air Force manual

ALSF-2 . . . . . Approach Lighting System With Sequenced Flasher

AWG . . . . . American Wire Gage

CHAPI . . . . . Chase Helicopter Approach Path Indicator

FAA . . . . . Federal Aviation Administration

HQUSACE . . . . . Headquarters, U.S. Army Corps of Engineers

LDIN . . . . . Lead-In Lighting System

MALS . . . . . Medium-Intensity Approach Lighting System

MALSF . . . . . Medium-Intensity Approach Lighting System with Sequenced Flasher

MALSR . . . . . Medium-Intensity Approach Lighting System with Runway Alignment Indicator Lights (RAIL)

MIL . . . . . Military specification

MS . . . . . Military standard

NEC . . . . . National Electrical Code (NFPA 70)

NFPA . . . . . National Fire Protection Association

NEMA . . . . . National Electrical Manufacturers Association

ODALS . . . . . Omnidirectional Approach Lighting System

PAPI . . . . . Precision Approach Path Indicator

RAIL . . . . . Runway Alignment Indicator Light

REIL . . . . . Runway End Identifier Light

RPM . . . . . revolutions per minute

SALS . . . . . Short-Approach Lighting System

THW . . . . . moisture- and heat-resistant thermoplastic

UL . . . . . Underwriters Laboratories